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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,941	01/25/2002	Daniele Venturini	213653	8712

23460 7590 12/04/2003

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6780

EXAMINER

PHILOGENE, PEDRO

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 12/04/2003

14 15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,941

Applicant(s)

VENTURINI, DANIELE

Examiner

Pedro Philogene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/20/03 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frigg et al. (5,180,382) in view of Grossberndt (4,544,313).

With respect to claim 11, Frigg et al discloses a bone screw for use in orthopaedic surgery with external fixation devices comprising a head (2, FIG.1) at one end a single threaded portion (6,7, FIG.2) at an opposite end, a non-threaded cylindrical shank (20) between the head and threaded portion the head having a non-threaded configuration for securement by an orthopaedic external fixation device, the threaded portion having an outside diameter and a core diameter which tapers towards a tip, as best seen in FIG.2, at an end opposite from the head (2, FIG.2) the thread portion (tapering towards the tip) having at least one constant pitch section (10,12), the

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threaded portion and head having diameters no greater than the diameter of the shank; as best seen in FIG.2.

It is noted that Frigg et al did not teach of threads that are separated from each other by a shaped bottom land having a concave profile defined by two counter-sloping planes; the threads formed with an acute angle generally triangular cross-sectional profile; as claimed by applicant. However, in a similar art, Grossberndt evidences the use of a screw with threads generally triangular in cross-section that are separated from each other by a shaped bottom land having a concave profile defined by two counter-sloping planes to create surfaces to allow material that is being removed to slide during threads penetration, as a result the supporting force is increased, thereby releasing stress on the material.

Therefore, given the teaching of Grossberndt, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the special shape of the of the bottom land of Grossberndt in the device of Frigg et al to create surfaces to allow material that is being removed to slide during threads penetration, as a result the supporting force is increased, thereby relieving material stress or, in this case, bone stress.

Although Grossberndt taught of threads having a constant height with a ratio of the outside diameter to the core diameter, it is noted that the above combination of references did not teach of a ratio range of 1.43 to 1.60; as claimed by applicant. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to reach the optimum range, since it has been held that where

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the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

With respect to claims 2, 3, 4, 6, 7, Grossberndt teaches all of the limitations, as set forth. An obtuse angle of 120 degree (since applicant's specification stated that the obtuse angle is in the range of 120 to 150 degrees, therefore, the angle could only be at least 120 degrees and the most 150 degrees); the facing wall or shaped bottom land having an acute angle in the 15 to 30 degrees range, column 3, line 1; and as best seen in FIGS. 1,2.

With respect to claims 5, 8,9,10, it is noted that the above combination of references did not teach of a screw having constant pitch of 1.25mm or a threaded portion one third the length of the screw or the height of the threads three fifths the pitch length wherein the height is 0.75mm; as claimed by applicant. However, applicant fails to establish the criticality of such dimensions and whether the limitations asserted in these claims are disclosed as critical, and if so, whether the invention disclosed in each claim, so limited; the examiner believes that any dimensions could have been used, since the device would have performed equally as well with any given dimensions.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,978,350	12-1990	Wagenknecht
5,871,486	02-1999	Huebner et al.

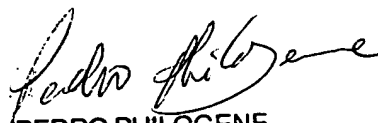
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro Philogene whose telephone number is (703) 308-2252. The examiner can normally be reached on Monday to Friday 6:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P Shaver can be reached on (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

Pedro Philogene
December 02, 2003



PEDRO PHILOGENE
PRIMARY EXAMINER